

## REMARKS

Claims 9, 11-13, 37 and 40-44 are pending in the application. Claims 41-44 are newly added. Reconsideration of this application is respectfully requested.

The Office Action rejects claims 9, 11-13, 37 and 40 under 35 U.S.C 103(a) as unpatentable over U.S. Patent No. 6,665,036 to Oh et al., hereafter Oh, in view of U.S. Patent No. 6,111,627 to Kim et al., hereafter Kim, U.S. Patent No. 5,995,186 to Hiroshi, hereafter Hiroshi, and U.S. Patent No. 6,061,114 to Callegari et al., hereafter Callegari.

The Examiner admits that Oh does not disclose the following recitations of finally rejected independent claim 9: "wherein said dry deposited layers are exposed to at least a first particle beam treatment and a second particle beam treatment".

The Examiner contends at page 9 of the Office Action that there is no disclosure in the application showing "that the first and second ion beam treatments used different ion sources. [The words] 'first' and 'second' only indicate the first and second time with the different directions, which ion beams are exposed on alignment films". The Examiner then concludes that "the first and second ion beam treatments in the disclosure of the instant application may interpret as a single ion beam treatment exposure with same ion source 10 to an alignment film to achieve a desired alignment in different directions".

It is respectfully submitted that the contention needs clarification and the conclusion is erroneous. As to the Examiner's contention, Applicants' illustrated embodiment uses one particle beam source to provide a plurality of particle beam treatments to an alignment layer. Independent claims 9 and 37 recite that first and second dry deposited layers "are exposed to at least a first particle

beam treatment and a second particle beam treatment". In the illustrated embodiment, the first particle beam treatment provides alignment in a first direction and the second particle beam provides alignment in a second direction that is different than the first direction.

As to the Examiner's conclusion, there is no support in Applicants' application that the first and second particle beam treatments can be interpreted as a single particle beam treatment. The Examiner cites no extrinsic evidence that supports the conclusion. Therefore, the conclusion is erroneous.

In claim interpretation, weight must be given to the combination of recited features. Independent claims 9 and 37 recite, *inter alia*, the combination of:

"wherein said dry deposited layers are exposed to at least a first particle beam treatment and a second particle beam treatment;  
wherein a direction of said first particle beam treatment with respect to said dry deposited layers is different than a direction of said second particle beam treatment with respect to said dry deposited layers".

The Examiner cannot ignore the recited combination of "at least a first particle beam treatment and a second particle beam treatment".

The Examiner also contends that Callegari "discloses a single ion beam treatment exposure to an alignment film to achieve a desired alignment in different directions (col. 6, lines 29-31)". This citation reads as follows:

"For multidirectional alignment, it is preferred that the multidirections are selected in such a fashion that results in a multidomain device."

This citation merely states that "it is preferred that the multi-directions are selected" and not that they are provided in any particular way. In fact, Caligari

only describes a mechanism that operates to provide an alignment direction in a film and not in multiple directions.

Thus, Callegari teaches to use a single particle beam treatment and not first and second particle beam treatments, as recited in independent claims 9 and 37. Therefore, independent claims 9 and 37 and dependent claims 11-13 and 40 are unobvious over the combination of Oh, Kim, Hiroshi and Callegari.

The Office Action provides no motivation for one skilled in the art combine Oh with Kim, Hiroshi and Callegari. In fact this suggested combination is improperly based on the hindsight of Applicants' disclosure. Such hindsight reconstruction of the art cannot be the basis of a rejection under 35 U.S.C. 103. The prior art itself must suggest that modification or provide the reason or motivation for making such modification. In re Laskowski, 871 F.2d 115, 117, 10 USPQ 2d 1397, 1398-1399 (CAFC, 1989). "The invention must be viewed not after the blueprint has been drawn by the inventor, but as it would have been perceived in the state of the art that existed at the time the invention was made." Sonsonics Inc. v. Aerosonic Corp. 38 USPQ 2d 1551, 1554 (CAFC, 1996), citing Interconnect Planning Corp. v. Feil, 774 F. 2d 1132, 1138, 227 USPQ 543, 547 (CAFC, 1985).

For the reasons set forth above, it is submitted that the rejection of claims 9, 11-13, 37 and 40 under 35 U.S.C. 103(a) is erroneous and should be withdrawn.

Newly presented dependent claims 41 and 43 are dependent on independent claims 9 and 37, respectively. Dependent claims 41 and 43 recite:

"wherein said first particle beam treatment aligns first and second ones of the domains of at least one of said pixels in a first direction, and wherein

said second particle beam treatment aligns said first domain in a second direction".

None of the cited references, taken alone or in combination, teaches the above quoted feature of dependent claims 41 and 43.

Newly presented dependent claims 42 and 44 are dependent on dependent claims 41 and 43, respectively. Dependent claims 42 and 44 recite:

"wherein said second particle beam treatment overwrites said first direction of said first domain with said second direction".

None of the cited references, taken alone or in combination, teaches the above quoted feature of dependent claims 42 and 44. Accordingly, it is submitted that claims 41-44 distinguish from the cited art and are, therefore, allowable.

It is respectfully requested for the reasons set forth above that the rejection under 35 U.S.C. 103(a) be withdrawn, that claims 9, 11-13, 37 and 40-44 be allowed and that this application be passed to issue.

Respectfully Submitted,

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